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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/615,294

07/09/2003

Shigeo Murakami

58604-029

7075

7590 07/31/2009
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EXAMINER

HANG, VU B

ART UNIT

PAPER NUMBER

2625

MAIL DATE

DELIVERY MODE

07/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/615,294	Applicant(s) MURAKAMI, SHIGEO	
	Examiner Vu B. Hang	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6,7,9,10,15,17,18,23,24,26,32 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6,7,9,10,15,17,18,23,24,26,32 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- This office action is responsive to the communication filed on 05/04/2009.
- The amendments received on 05/04/2009 have entered and made of record.
- Claims 1, 6-7, 9-10, 15, 17-18, 23-24, 26-17, 32 and 34 are pending in the current application.

Response to Arguments

1. Applicant's arguments filed 05/04/2009, with respect to the amended independent claims and the cited prior art, have been fully considered and are persuasive. Therefore, the previous rejections of Claims 1, 6-7, 9-10, 15, 17-18, 23-24, 26-17, 32 and 34, been withdrawn. However, upon further consideration, new grounds of rejection are made in view of Masaki (US Patent 6,775,408 B1) and Shimazaki (US Patent 6,204,873 B1).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6, 10, 18, 23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US Patent 4,649,502) in view of Masaki (US Patent 6,775,408 B1).
4. Regarding **Claims 1 and 18**, Keller discloses a quality measuring method for comparing an image of reference printing plate and a printed image of a print corresponding to an image of

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the reference printing plate for controlling the ink feeding rates of a printing machine (see Fig. 1 (3,51), Fig. 2 (2,3,5), Col. 2, Line 21-48 and Col. 4, Line 34-37), the method comprising: a reading step for reading the image of reference printing plate and the printed image of the print (see Fig. 2 (3,5,6), Col. 2, Line 65 - Col. 3, Line 1 and Col. 4, Line 16-23); a representative color determining step for determining, from image data, a representative color characterizing the printed image of the print, and positions of the representative color (see Fig. 1 (51,52), Col. 3, Line 16-21, Col. 3, Line 67 - Col. 4, Line 8 and Col. 4, Line 38-41); [Note: the prevailing color from CMYK are determined in a print zone to determine the change in ink feed needed for the print zone.] and a calculating step for carrying out a comparative calculation of color data in the positions of the representative color of the image of reference printing plate and color data in positions of the representative color of the printed image of print, to create control data for controlling the ink feeding rates of the printing machine (see Fig. 1 (52,53), Col. 3, Line 67 - Col. 4, Line 16 and Col. 4, Line 34-41), wherein the representative color and the positions thereof are determined for respective image element areas on a printing paper (see Fig. 1 (53,54), Col. 3, Line 67 - Col. 4, Line 8 and Col. 4, Line 38-41), and wherein the image data has three color components (see Col. 4, Line 38-41 and Col. 6, Line 2-18).

5. Keller fails to disclose wherein the representative color determining step is executed to create a histogram with the tones of each of the color components to classify pixels corresponding to the tones of the three color components and to select the representative color and the position from pixels included in the class interval of maximum frequency in the histogram; and wherein the position of the representative color selected is a position having maximum area formed by the pixels in the class interval. Keller, however teaches measuring the

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reflectance of the image data elements to generate control data for controlling the ink feeding rates of the printing machine (see Fig.1 (3,52,53), Fig.2, Col.3, Line 1-11 and Col.3, Line 67 - Col.4, Line 16). Masaki discloses a color image correction method in which a histogram is created to classify pixels corresponding to the tones of the RGB color components (see Fig.3 (S18), Fig.4 (S30), Fig.11 (S272), Col.3, Line 48-53 and Col.6, Line 56-59) and determining the position of pixels with the maximum frequency in the histogram (see Fig.4 (S32), Fig.11 (S272), Col.3, Line 48-53 and Col.6, Line 56-59). Masaki further teaches determining a specific color as a position having an area greater than a predetermined area in the histogram (see Fig.7, Col.4, Line 27-38 and Col.4, Line 49-58).

6. Keller and Masaki are combinable because they are from the same field of endeavor, namely image data processing methods. At the time of the invention, it would have been obvious for one skilled in the art to Keller's method the steps for creating a histogram with the tones of each of the color components to classify pixels corresponding to the tones of the three color components and to select the representative color and the position from pixels included in the class interval of maximum frequency in the histogram. The motivation would be to identify and select a specific color area in the printed image, and to generate control data for adjusting the ink feeding rates for printing the identified color area. The color correction process would generate higher quality prints. It is further obvious for one skilled in the art to include the step for selecting the representative color as a position having a maximum area formed by the pixels in the class interval of the histogram. The motivation would be to identify a dominant color for a particular print area. The dominant color in the print area would be the representative color undergoing the color correction process. It is also obvious for one skilled in the art to use the

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image of reference paper for comparison with the printed image. The motivation would be to apply the print quality measuring method using an ink jet printer instead of a printing machine that uses printing plates to generate the print image.

7. Regarding **Claims 6 and 23**, Keller further discloses wherein the image data for determining the representative color is of plate making data used at plate making time (see Fig. 1 (3), Col.4, Line (34-38 and Col.10, Line 9-12).

8. Regarding **Claims 10 and 27**, the rationale provided for the rejection of Claim 1 is incorporated herein.

9. Claims 7, 9, 15, 17, 24, 26, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller et al. (US Patent 4,649,502) in view of Shimazaki (US Patent 6,204,873 B1).

10. Regarding **Claims 7 and 24**, Keller discloses a quality measuring method for comparing an image of reference printing plate and a printed image of a print corresponding to an image of the reference printing plate for controlling the ink feeding rates of a printing machine (see Fig..1 (3,51), Fig.2 (2,3,5), Col.2, Line 21-48 and Col.4, Line 34-37), the method comprising: a reading step for reading the image of reference printing plate and the printed image of the print (see Fig.2 (3,5,6), Col.2, Line 65 - Col.3, Line 1 and Col.4, Line 16-23); a representative color determining step for determining, from image data, a representative color characterizing the printed image of the print, and positions of the representative color (see Fig. 1 (51,52), Col.3, Line 16-21, Col.3, Line 67 - Col.4, Line 8 and Col.4, Line 38-41); [Note: the prevailing color from CMYK are determined in a print zone to determine the change in ink feed needed for the print zone.] and a calculating step for carrying out a comparative calculation of color data in the positions of the

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representative color of the image of reference printing plate and color data in positions of the representative color of the printed image of print, to create control data for controlling the ink feeding rates of the printing machine (see Fig.1 (52,53), Col.3, Line 67 - Col.4, Line 16 and Col.4, Line 34-41), wherein the representative color and the positions thereof are determined for respective image element areas on a printing paper (see Fig. 1 (53,54), Col.3, Line 67 - Col.4, Line 8 and Col.4, Line 38-41), and wherein the image data has three color components (see Col.4, Line 38-41 and Col.6, Line 2-18).

11. Keller fails to disclose wherein the calculating step is executed to create the control data using comparative calculation of gray control color of the reference paper image and the gray control color of the printed image, wherein the gray control color data is used when the representative color is devoid of one of the three color components. Shimazaki, however, discloses a color conversion method (see Fig.3 and Col.3, Line 23-38) in which color correction is performed on the print data using a color proof image and a gray correction chart (see Fig.1 (20,12,14,16,17,21,26), Fig.2 (12,20,44), Fig.7 (152,156,158,162), Col.3, Line 23-38, Col.5, Line 25-35 and Col.14, Line 1-12). Shimazaki further teaches altering the density image data to obtain the desired gray balancing (Fig.7 (152,156,158,162), Col.3, Line 23-38, Col.5 and Col.14, Line 1-12).

12. Keller and Shimazaki are combinable because they are from the same field of endeavor, namely image data processing methods. At the time of the invention, it would have been obvious for one skilled in the art to include to the print quality measuring method the step for creating the control data using comparative calculation of gray control color of the reference paper image and the gray control color of the printed image. The motivation would be to include gray balancing

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for certain areas of the image data. The gray balancing, along with the color data of the image would be used to adjust the gray colors in the appropriate areas of the color image. It is further obvious for one skilled in the art to perform the comparative calculation for the gray control color when the representative color of the image is devoid of one of the three color components. The motivation would be to perform gray balancing in areas of the image data where gray tones need to be adjusted. The areas of the image data where gray balancing needs adjustments are likely to be devoid of one of the three color components of RGB, since the gray tone is likely to be emphasized in these areas. It is also obvious for one skilled in the art to use the image of reference paper for comparison with the printed image. The motivation would be to apply the print quality measuring method using an ink jet printer instead of a printing machine that uses printing plates to generate the print image.

13. Regarding **Claims 9 and 26**, Keller and Takemoto teach the method of Claim 7 but fail to expressly disclose selectively using the results of the comparative calculations of the representative color and the results of the comparative calculations of the gray control color, or by using a compromise in an appropriate ratio of the results of the two comparative calculations. Keller, however, teaches using the results of the comparative calculation of color data in the positions of the representative color of the image of reference printing plate and color data in positions of the representative color of the printed image of print, to create control data for controlling the ink feeding rates of the printing machine (see Fig. 1 (52,53), Col.3, Line 67 - Col.4, Line 16 and Col.4, Line 34-41). Shimazaki teaches altering the density image data to obtain the desired gray balancing (Fig.7 (152,156,158,162), Col.3, Line 23-38, Col.5 and Col.14, Line 1-12).

14. At the time of the invention, it would have been obvious for one skilled in the art to selectively use the results of the comparative calculations of the representative color and the results of the comparative calculations of the gray control color, or a compromise in an appropriate ratio of the results of the two comparative calculations. The motivation would be to adjust the image data to the desired color. The results of the comparative calculations of the representative color and the gray color, or the compromise ratio of the results of the two comparative calculations would provide the appropriate color density information for the ink exposure setting in the printing machine.

15. Regarding **Claims 15 and 32**, the rationale provided for the rejection of Claim 7 is incorporated herein.

16. Regarding **Claims 17 and 34**, the rationale provided for the rejection of Claim 9 is incorporated herein.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu B. Hang whose telephone number is (571)272-0582. The examiner can normally be reached on Monday-Friday, 9:00am - 6:00pm.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vu B. Hang/
Examiner, Art Unit 2625

**/David K Moore/
Supervisory Patent Examiner, Art Unit 2625**